

1. A control unit for control at vehicle engine startup, comprising:

a throttle valve in an intake passage of an engine to control intake air quantity;

a bypass air quantity regulating valve to control the air quantity in a bypass passage which is bypassing said throttle valve;

an ignition coil to permit an ignition plug of a same cylinder of said engine to produce multi-sparks during one cycle;

a bypass air quantity controller to control said bypass air quantity regulating valve such that the engine speed is at a target engine speed;

an ignition timing feedback controller to perform feedback control for said ignition coil such that the ignition timing of said ignition plug is at a target ignition timing; and

a multi-spark controller to control said ignition coil such that said ignition plug performs multiple-sparking.

2. The control unit for control at engine startup as defined in Claim 1, wherein said bypass air quantity controller calculates the target engine speed by adding a first target engine speed and a second target engine speed, and

said first target engine speed varies according to a coolant temperature at engine startup and according to an elapsing time after engine speed exceeds a reference speed for determination of complete explosion, and said second target engine speed varies according to the coolant temperature at engine startup.

3. The control unit for control at engine startup as defined in Claim 1, wherein said multi-spark controller controls the ignition plug of the same cylinder to perform multi-sparking of the plug when the

engine speed is below a predetermined speed, or a certain time has elapsed after the engine speed has once decreased below a predetermined speed.

4. The control unit for control at engine startup as defined in Claim 1, wherein said ignition timing feedback controller controls by feedback to advance the ignition timing faster than a base ignition timing when the actual engine speed is below the target engine speed, and

said multi-spark controller controls the ignition plug of the same cylinder to perform multi-sparking.

5. A control unit for control at engine startup, comprising:

an electronic throttle valve disposed in the intake passage to control intake air quantity;

an ignition coil to permit an ignition plug of a same cylinder of an engine to produce multi-sparking during one cycle of combustion;

an intake air quantity controller to control said electronic throttle valve such that the engine speed is at a target engine speed;

an ignition timing feedback controller to perform feedback control for said ignition coil such that the ignition timing of said ignition plug is at a target ignition timing; and

a multi-spark controller to control said ignition coil such that said ignition plug performs multi-sparking per engine combustion cycle.